***UNIT REVIEW – LINEAR FUNCTIONS***

***Find the slope in each situation:***

1. Line passes through . 2. Line passes through .



|  |  |  |  |
| --- | --- | --- | --- |
| Number of donuts | 6 | 12 | 18 |
| Cost | 3.00 | 6.00 | 9.00 |

3. 4. Line 5. Line



6. You buy deli turkey at a price of $6.49 per pound.

***Sketch a line that satisfy the following conditions:***

7. Positive slope 8. Negative slope 9. Slope=0 10. slope undefined

***Graph the line:***

11. 12. 13. 14.



15. 16. 17. 18.



***Write the equation of the line that satisfies the given conditions:***

19. Line with a slope of zero through the point (5,6).

20. Line with an undefined slope through the point (2,7).

21. and y-intercept is 7



22. , passes through



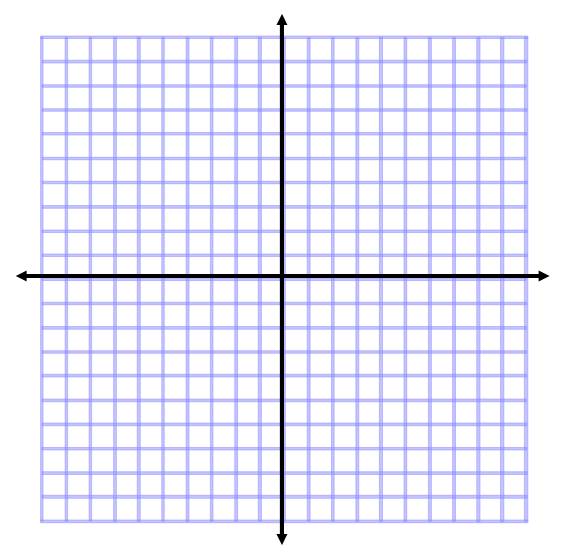
23. In *point-slope form*: , passes through



24. In *slope-intercept form*: , passes through



25. Passes through the points .



26. 27.

|  |  |
| --- | --- |
| X | Y |
| -1 | 4 |
| 0 | 6 |
| 1 | 8 |

***Linear Applications:***

28. A moving company charges a flat rate of $100 and then $3 per box moved.

A. What is the slope and what does it represent in this problem?

B. What is the y-intercept and what does it represent in this problem?

C. Write an equation that models this situation.

D. How much money will you spend if you have the company move 25 boxes?

29. I need to order T-shirts for the gymnastics team. The company charges $8 to set up the screen print and then $11.50 for each shirt. If the team’s order was $169 in total, how many T-shirts did I order?

30. 

In the equations, p represents the price per pound, in dollars of peanuts and cashews, respectively, x weeks after January 1. What was the price per pound of peanuts when it was equal to the price per pound of cashews?

31. Sam works as a teaching assistant (TA) at her university. Each week she receives a batch of papers that need graded. The number of papers that she has left to grade at the end of each day can be estimated with the equation , where P is the number of papers left and d is the number of days she has worked that week.

A. What is the meaning of the value of 305 in this equation?

B. What is the meaning of the value of 40 in this equation?

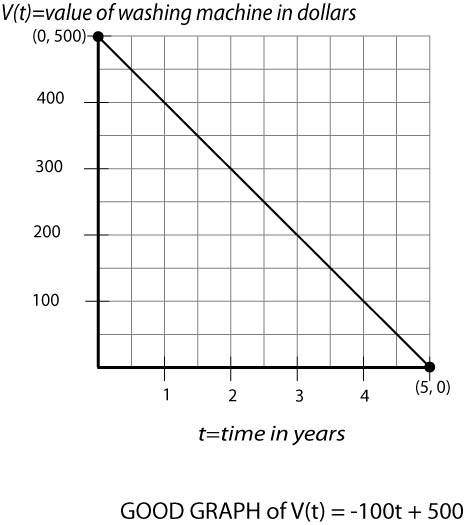
32. A school sold 450 tickets for the spring fling. Adult tickets cost $8 and student tickets cost $4, and the total revenue was $2,200. Let *a* represent the number of adult tickets sold and *s* represent the number of student tickets. Write a system of equations that could be used to find out how many of each type of ticket was sold.

33. A company uses the formula  to calculate their monthly profit where P is the profit and *n* is the number of games sold. How many games does the company need to sell to make a profit of $400 this month?

34. One company, Washers Plus, shows the value of their machines in a graph and another company, Clean Cycle, uses a table.

A. Which company’s machine is more valuable when it is first purchased?

B. Describe how the rates of depreciation of each company’s washers compare. (Compare the two slopes).



|  |  |
| --- | --- |
| Years old | Value of the machine |
| 0 | 600 |
| 1 | 540 |
| 2 | 480 |
| 3 | 420 |
| 6 | 240 |
| 10 | 0 |